

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Cancel claims 4, 6-8, and 11-14 without prejudice

1. (currently amended) A deep hardening Cu/Ni/Cr alloy steel for reducing the cost of high toughness, high strength steels, by eliminating the use of the scarce high cost alloying elements cobalt and molybdenum comprising by weight: about 0.40-1.0% copper; about 0.80-3.5% of chromium; about 2.5-8.0% nickel; about 0.55-1.50% of silicon; about 0.15-1.50% manganese; at least one ~~of the transitional elements~~, element from the group consisting of vanadium in about 0.10-1.00% by weight and titanium in about 0.10-0.65% by weight; and the remainder iron, carbon and incidental impurities.

2. (currently amended) A deep hardening Cu/Ni/Cr alloy steel for reducing the cost of high toughness, high strength steels by eliminating the use of the scarce high cost alloying elements cobalt and molybdenum comprising about 0.40-0.65% by weight of copper; about 0.75-1.50% by weight of silicon, said copper and said silicon being present in a Si to Cu weight ratio of about 1.2-2.5 %; about 1.50-3.50% by weight of chromium; about 1.0-6.0% by weight of nickel; about 0.35-0.50% by weight of carbon before and after deep hardening; about 0.50-1.50% by weight of manganese; at least one ~~of the transitional elements~~; element from the group consisting of vanadium in

about 0.10-1.00% by weight and titanium in about 0.10-0.65% by weight; and the remainder iron and incidental impurities.

3. (currently amended) A deep hardening Cu/Ni/Cr alloy steel for reducing the cost of high toughness high strength steels by eliminating the use of the scarce high cost alloying elements cobalt and molybdenum comprising by weight about 0.4 to 1.0% Cu, about 2.5 to 8.0% of Ni, about 0.8 to 3.5% Cr, about 0.50 to 1.5% Si, at least one of the transitional elements, element from the group consisting of vanadium in about 0.10-1.00% by weight and titanium in about 0.10-0.65% by weight and characterized by the presence of retained austenite after quenching from an austenitizing temperature, said steel having a microstructure comprised of a major phase of lath martensite enveloped by a minor phase of retained austenite.

4. (cancelled)

5. (currently amended) A low cost rolled or forged article of high toughness, high strength Cu/Ni/Cr alloy deep hardening steel having after quenching and tempering an HRC hardness of at least 50, a yield strength of at least 200 ksi and an impact strength value ~~KcV~~ KCV of at least 28 ft-lb, and consisting essentially of by weight: about 0.50-0.70% of copper; about 0.80-3.50% of chromium; about 2.0-8.0% nickel; about 0.35-0.50% carbon; about 0.75-1.50% silicon, said copper and said silicon being present in a Si to Cu weight ratio of about 1.2-2.5; about 0.65-1.20% manganese; at least one transitional element from the group consisting of vanadium in about 0.10-1.00% by

weight and titanium in about 0.10-0.65% by weight, and the remainder iron and incidental impurities.

6. (cancelled)

7. (cancelled)

8. (cancelled)

9. (currently amended) An article manufactured from a low cost, high toughness, high strength Cu/Ni/Cr alloy steel without the scarce high cost alloying elements cobalt and molybdenum consisting by weight essentially of: about 0.32-0.55% carbon, about 0.50-1.00% of silicon; about 0.40-1.0% copper, about 0.80-3.5% of chromium; about 1.0-3.5% nickel; about 0.50-1.00% manganese; at least one transitional element from the group of elements: 0.10-1.0% of vanadium, 0.10-0.65% titanium; and the remainder iron and incidental impurities and having after nitriding an exceptionally deep and hard outer case and high core strength and toughness.

10. (currently amended) A rolled or forged article made from a low cost high toughness, high strength, Cu/Ni/Cr deep hardening alloy steel without the scarce high cost alloying elements cobalt and molybdenum consisting essentially by weight of about 0.4 to 1.0% Cu, about 2.0 to 8.0% of Ni, about 0.8 to 3.5% Cr, about 0.50 to 1.5% Si, at least one transitional element from a group of ~~transitional elements~~: consisting of

vanadium in about 0.10-1.0% of vanadium, by weight and titanium in about 0.10-0.65% by weight titanium, the remainder iron and incidental impurities and characterized by the presence of retained austenite after quenching from an austenitizing temperature, said steel having a microstructure comprised of a major phase of lath martensite enveloped by a minor phase of retained austenite and a hardness of at least HRC 50, a yield strength of at least about 200 ksi and a Charpy impact value KCV of about at least 28 ft-lb.

11. (cancelled)

12. (cancelled)

13. (cancelled)

14. (cancelled)